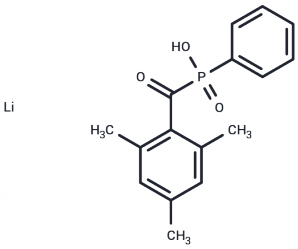
Data Sheet (Cat.No.T32568)

LAP

Chemical Properties



CAS No. :	85073-19-4
Formula:	C16H17LiO3P
Molecular Weight:	295.22
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	LAP is a highly efficient and biocompatible radical photoinitiator used to initiate radical chain polymerisation and synthesise polymeric materials under light irradiation. The primary wavelength for light absorption and polymerisation initiation is 405 nm. LAP concentrations ≥3.4 mmol/L and the radicals it generates exhibit cytotoxicity towards M-1 mouse renal collecting duct cells.
Targets(IC50)	Others

Solubility Information

Solubility	H2O: 6 mg/mL (20.32 mM),Sonication is recommended. DMSO: 20 mg/mL (67.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.77 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3873 mL	16.9365 mL	33.873 mL
5 mM	0.6775 mL	3.3873 mL	6.7746 mL
10 mM	0.3387 mL	1.6937 mL	3.3873 mL
50 mM	0.0677 mL	0.3387 mL	0.6775 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Nguyen AK, et al. The Photoinitiator Lithium Phenyl (2,4,6-Trimethylbenzoyl) Phosphinate with Exposure to 405 nm Light Is Cytotoxic to Mammalian Cells but Not Mutagenic in Bacterial Reverse Mutation Assays. Polymers (Basel). 2020 Jul 3;12(7):1489.

Qian Feng, et al. "Multi-modal imaging for dynamic visualization of osteogenesis and implant degradation in 3D bioprinted scaffolds." Bioactive Materials 37 (2024): 119-131.

Nguyen, et al. Toxicity and photosensitizing assessment of gelatin methacryloyl-based hydrogels photoinitiated with lithium phenyl-2, 4, 6-trimethylbenzoylphosphinate in human primary renal proximal tubule epithelial cells. Biointerphases 14.2 (2019).

Xu H, et al. Effects of Irgacure 2959 and lithium phenyl-2,4,6-trimethylbenzoylphosphinate on cell viability, physical properties, and microstructure in 3D bioprinting of vascular-like constructs. Biomed Mater. 2020 Aug 7;15 (5):055021.